

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

1. (Currently Amended) A method of treating a subterranean zone penetrated by a well bore comprising the steps of:
 - (a) preparing or providing a subterranean zone treating fluid comprising
an aqueous fluid,
one or more salts in an amount up to about 3.5% by weight of the aqueous fluid, and
an additive for preventing the swelling and migration of formation clays in said subterranean zone selected from the group consisting of 1-carboxy-N,N,N-trimethyl methanaminium chloride, 2-hydroxy-N,N,N-trimethyl ethanaminium acetate, and 2-hydroxy-N,N,N-trimethyl-1-propanaminium acetate; and
 - (b) introducing said treating fluid into said subterranean zone.
2. (Original) The method of claim 1 wherein said additive in said treating fluid is 1-carboxy-N,N,N-trimethyl methanaminium chloride.
3. (Original) The method of claim 1 wherein said additive is present in said treating fluid in an amount in the range of from about 0.1% to about 2.0% by weight of said aqueous fluid in said treating fluid.
4. (Cancelled)
5. (Previously Presented) The method of claim 1 wherein said treating fluid further comprises a gelling agent.
6. (Previously Presented) The method of claim 5 wherein said gelling agent is selected from the group consisting of galactomannan gums, modified or derivatized galactomannan gums, cellulose derivatives, xanthan biopolymer, succinoglycan biopolymer, polyacrylamides, polyacrylates, and combinations thereof.
7. (Previously Presented) The method of claim 5 wherein said gelling agent is selected from the group consisting of hydroxyethylcellulose, hydroxypropylguar, guar and anionically charged carboxymethylguar, carboxymethylhydroxypropylguar, carboxyethylguar, and carboxymethylhydroxyethylcellulose, and combinations thereof.

8. (Original) The method of claim 5 wherein said gelling agent is anionically charged carboxymethylhydroxypropylguar.

9. (Previously Presented) The method of claim 5 wherein said gelling agent is present in said treating fluid in an amount in the range of from about 0.12% to about 0.96% by weight of said aqueous fluid in said treating fluid.

10. (Previously Presented) The method of claim 5 wherein the gelling agent is at least partially crosslinked through a reaction comprising a cross-linking agent.

11. (Currently Amended) The method of claim 10 wherein said cross-linking agent is selected from the group consisting of borate-releasing compounds, sources of titanium ions, sources of zirconium ions, sources of antimony ions, and sources of aluminum ions, and combinations thereof.

12. (Original) The method of claim 10 wherein said cross-linking agent is present in said treating fluid in an amount in the range of from about 0.01% to about 1.0% by weight of said aqueous fluid in said treating fluid.

13. (Currently Amended) A method of fracturing a subterranean zone penetrated by a well bore comprising :

preparing or providing a subterranean zone fracturing fluid comprising

an aqueous fluid,

a gelling agent,

one or more salts in an amount up to about 3.5% by weight of the aqueous fluid, and

an additive for preventing the swelling and migration of formation clays in said subterranean zone selected from the group consisting of 1-carboxy-N,N,N-trimethyl methanaminium chloride, 2-hydroxy-N,N,N-trimethyl ethanaminium acetate, and 2-hydroxy-N,N,N-trimethyl-1-propanaminium acetate;

introducing said fracturing fluid into said subterranean zone at a rate and pressure sufficient to form one or more fractures in said zone; and

recovering said fracturing fluid from said zone.

14. (Original) The method of claim 13 wherein said additive in said treating fluid is 1-carboxy-N,N,N-trimethyl methanaminium chloride.

15. (Original) The method of claim 13 wherein said additive is present in said treating fluid in an amount in the range of from about 0.1% to about 2.0% by weight of said aqueous fluid in said treating fluid.

16. (Cancelled)

17. (Currently Amended) The method of claim 13 wherein said gelling agent is selected from the group consisting of galactomannan gums, modified or derivatized galactomannan gums, cellulose derivatives, xanthan biopolymer, ~~succinoglycon~~ succinoglycan biopolymer, polyacrylamides, and polyacrylates, and combinations thereof.

18. (Currently Amended) The method of claim 13 wherein said gelling agent is selected from the group consisting of hydroxyethylcellulose, hydroxypropylguar, guar and anionically charged carboxymethylguar, carboxymethylhydroxypropylguar, carboxyethylguar, and carboxymethylhydroxyethylcellulose, and combinations thereof.

19. (Original) The method of claim 13 wherein said gelling agent is anionically charged carboxymethylhydroxypropylguar.

20. (Previously Presented) The method of claim 13 wherein said gelling agent is present in said treating fluid in an amount in the range of from about 0.12% to about 0.96% by weight of said aqueous fluid in said treating fluid.

21. (Previously Presented) The method of claim 13 wherein the gelling agent is at least partially crosslinked through a reaction comprising a cross-linking agent.

22. (Currently Amended) The method of claim 21 wherein said cross-linking agent is selected from the group consisting of borate-releasing compounds, sources of titanium ions, sources of zirconium ions, sources of antimony ions, and sources of aluminum ions, and combinations thereof.

23. (Original) The method of claim 21 wherein said cross-linking agent is present in said treating fluid in an amount in the range of from about 0.01% to about 1.0% by weight of said aqueous fluid in said treating fluid.

24. - 35. (Cancelled)

BEST AVAILABLE COPY